

What is claimed is:

1. A wavelength division multiplex transmission system which distributes transmission signals to be transmitted among a plurality of wavelength components, converts said signals
5 into WDM signals, and transmits said WDM signals to a WDM transmission network, and which restores WDM signals from said WDM transmission network into said transmission signals;

comprising an optical transmission device and optical receiving device, in which said optical transmission device
10 comprises an operating-system optical transmission unit and a standby-system optical transmission unit, and said optical receiving device comprises an operating-system optical receiving unit and a standby-system optical receiving unit; wherein

either said operating-system optical transmission unit, or said standby-system optical transmission unit, or both, have optical transmission unit internal defect avoidance means which, upon the occurrence of a prescribed number or fewer of wavelength component transmission defects, executes avoidance
20 of defects within said optical transmission unit.

2. A wavelength division multiplex transmission system according to claim 1, in which said optical transmission unit internal defect avoidance means distributes the transmission signals which had been distributed to the wavelength component
25 related to a defect to another, normal wavelength component, and causes said signals to be transmitted.

3. A communication device having defect detection means for detecting defects in internal constituent members, having

defect occurrence member transmission means which, when said defect detection means detects a defect, sends defect
5 occurrence member information to an external maintenance member management terminal which performs management of maintenance members, supply processing, or similar.

4. A communication device according to claim 3, in which said defect occurrence member transmission means sends
10 said defect occurrence member information to the transmission network used by the communication device for normal communication.

09825061 040401